

Laboratory teams with DOE to study jet fuel

by Tim Anderl, AFRL Headquarters

WRIGHT-PATTERSON, AFB — The Air Force Research Laboratory and the Department of Energy will soon be working together on fuel research to reduce pollutants in the air.

AFRL's Propulsion Directorate's Fuels Branch recently signed a Memorandum of Understanding with DOE's National Energy and Technology Laboratory (NETL) to research, develop and demonstrate clean aviation fuels to reduce pollutant emissions. Research will be conducted on the effects of sulfur on particulate (smoke and soot) formation; strategies such as additives and new fuel blends to reduce these particulates; and the impact of these strategies on the cost of making cleaner jet fuels.

The research will be done as part of the DOE's Ultra Clean Transportation Fuels initiative. The Ultra Clean Transportation Fuels initiative is a \$100 million national effort develop fuel technologies that will enable ground vehicles, marine vessels and aircraft to significantly reduce their pollutant emissions. The collaboration between AFRL and DOE includes aviation turbine fuels.

The Department of Energy has pledged financial support for the Propulsion Directorate as part of the collaboration.

Some of the Propulsion Directorate's recent accomplishments include development of a "+100" fuel additive, which has been adopted by engine manufacturers and two law-enforcement agencies in Florida. These agencies have used the additive, which reduces the build up of fuel deposits and reduces pollution, to reduce their maintenance costs. The directorate also conducts research to improve low temperature properties of JP-8 fuel.

In addition, the directorate is a leader in the Integrated High Performance Turbine Engine Technology (IHPTET) program, which is an ongoing national effort to double U.S. military aircraft propulsion capability.

The directorate also develops power for air platforms, space platforms and weapons.

AFRL commander, Brig. Gen. Paul D. Nielsen and Dr. Fred R. Brown, associate director for NETL's Office of Fuels and Energy Efficiency, signed the memorandum during a ceremony on October 6 at the Propulsion Directorate, Wright-Patterson AFB.

NETL, one of DOE's 15 national laboratories, performs, manages and implements broad spectrum of energy and environmental research and development programs, including the Ultra Clean Transportation Fuels Initiative. The lab employs approximately 1,100 federal personnel and support-service contractors at its sites in Pittsburgh, Pa. and Morgantown, W.V. @